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In The United States Patent and Trademark Office

Application No.: 10/724,291

Filing Date: 11/26/2003

First Named Inventor: Arthur, James D.

Application Title: *Converter For Electronic Flashlight*

Examiner: Berhane, Adolf D., Art Unit 2838

Huntington Beach, CA August 31, 2006

Re: Applicant's Response to Office Letter of 8/7/2006

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

via fax 571-273-8300

Sir:

In response to the Office Letter mailed August 7th, 2006,

Conversation with Examiner 8/23/06

Applicant gratefully acknowledges a conversation by telephone between same and Examiner Berhane at 13:00-13:20 PDT on Wednesday, August 23, 2006, wherein Applicant explained Applicant's position that the operation of the Wener device has been misconstrued and that therefore the stated bases for rejection in the Office Letter of 8/7/06 were founded on errors of fact, and wherein Examiner assured Applicant that evidence, arguments, and affidavits to that effect would be considered, that the case was still active, and might still be brought into a condition for allowance.

Applicant agreed to make measurements of the inductor (L1) current of the Wener device, and

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supply Examiner with an affidavit attesting to the results thereof (reported in Appendix I, attached hereto).

Applicant's Response to Office Letter of 7-Aug-06

Facts Disputed

Examiner has asserted in the Office Letter dated 7-Aug-06, pg. 2, that:

- a) Wener col 4, lines 42 to col. 5, line 3 discloses a “stabilized power converter,”
- b) that Wener provides “... time needed to fully discharge inductor (L1),” and
- c) Wener's “... inductor along with the RC establishes an off-time,” i.e., is employed as a timing element (Office Letter pg. 3, lines 4-6).

With greatest respect, Applicant urges that these assertions, forming the bases for the Examiner's rejections, are factually incorrect.

With respect to Wener disclosing a “stabilized power converter,” Applicant respectfully calls attention to Applicant's Amendment A, Appendix A: Rule 132 Declaration A, wherein:

- 1) it is attested to that Fig. 4 of Applicant's application comprises a graph showing *actual measurements* of the power-input-versus-supply-voltage of the Wener and Applicant's devices, graphically demonstrating the improved stability of Applicant's Invention, and
- 2) Table A-1 (*ibid*) discloses numerical measurement data on each device.

Applicant submits that both the above sources, and additional concurring measurements supplied in the attached affidavit (appendix I, par. 5), fully demonstrate the Wener device to be a *non*-stabilized power converter, and make clear the much-improved stability of Applicant's device.

With respect to Wener providing “... time needed to fully discharge inductor (L1),” per conversation with Examiner, Applicant herein supplies measurements in an affidavit in the attached Appendix I, demonstrating that Wener's inductor L1 carries a constant current and is not discharged.

With respect to Wener's “... inductor along with the RC establishes an off-time,” direct measurements in Applicant's attached Appendix I demonstrate this understanding to be incorrect, and support Applicant's contention that Wener's off-time is established by R3-C3, as described in *Wener* col. 4, lines 28-31.

Applicant further maintains that an off-timer controlled by R3-C3—and Applicant's other understandings of the Wener device—come directly from the Wener text, as detailed in the attached

Appendix II.

Applicant Offers to Demonstrate

Applicant has had the advantage of considerable experience with all the circuits in question and is more than confident as to these statements. Applicant would be pleased to prove the truth of all the above assertions beyond any doubt, by any means acceptable to Examiner, such as by rigorous computations, by computer simulation, by making any measurements the Examiner might require, or by appearing in person and demonstrating with an oscilloscope for the Examiner or any Board of Appeal.

Applicant Requests Reconsideration

Accordingly, with the grounds for rejection in the Office Letter thus addressed, Applicant respectfully submits that Applicant's application contains patentable subject matter, as more particularly described below.

Merits of Applicant's Claims — Overview

In summary, the Wener device may be understood as an ordinary multivibrator that drives an inductor. Wener employs a fixed off-timer comprising R3-C3. No means is provided in Wener's converter to favorably adapt its off-time to compensate for supply voltage variations.

Applicant, by contrast, has claimed in each claim 8-29 a) a novel *adaptive* off-timer that *incorporates* L1 as a timing element to provide an adaptive off-time interval, or alternatively, b) a method providing such an adaptive off-time. Said adaptive off-time interval varies according to the inductor's discharge time—and therefore with the converter's input voltage—thereby distinguishing Applicant's claimed invention from Wener, and producing a stabilized output and numerous advantages not taught in Wener.

Merits of Individual Claims - Discussion

Claim 8 is specifically distinguished from the prior art in reciting:

“whereby [...] the duration of said off time interval is terminated at such time as said stored energy in said inductive means is substantially fully exhausted.”

thereby limiting claim 8 to devices possessing Applicant's novel off-timing means wherein off-time is determined as the time needed for substantially complete discharge of the inductor. Claim 8 is thereby distinguished from Wener, which does not include any means for terminating off-time

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responsive to the inductor's state of discharge as recited in claim 8.

Claims 9-16 depend on and include the limitations of claim 8.

Claim 17(f) recites and is limited to devices possessing the function of Applicant's novel off-timing structure/mechanism:

“...off-timing means responsive to said discharge voltage reversal of said inductive means for establishing an off time...”

It must be understood that the laws of physics assure that the claimed “discharge voltage reversal” is a negative-going voltage reversal appearing across the inductor after it has been allowed to completely discharge, and is therefore distinguished from and is *not* the positive-going voltage reversal (“spik[e] up”) recited in Wener col. 4, line 58.

Claims 18-20 depend on and include the limitations of claim 17.

Claim 21(f) very specifically recites the unique structure of Applicant's preferred embodiment, including “a coupling means” producing the novel off-timer of the Invention:

“a first coupling means for electrically coupling two circuit nodes, and...”

Said structure distinguishes claim 21 from Wener by replacing Wener's off-timing scheme with Applicant's novel timer, thereby achieving Applicant's novel results.

Claims 22-23 further stipulate and specify the structure of said coupling means, which can be either a d.c.-blocking capacitor (dependent claim 22), or a direct connection (dependent claim 23);

Claims 22-24 depend on, and includes the limitations of claim 21.

Possible Amendment to Claim 22

Examiner has stated in the Office Letter of 8/7/06, pg. 2, section 3, that “Applicant does not claim the value of the capacitors.”

The capacitor in question has been described in Applicant's specification, pg. 9, par. 1 as “a relatively large-valued d.c. blocking capacitor,” and bears the label **Cinf** in Applicant's specification, which descriptions were intended to convey an effectively infinite capacitance which--in contrast to Wener--has no timing function.

If it would please the Examiner, Applicant proposes claim 22 might be amended to claim the capacitor more particularly by specifying that “said capacitor creating a time constant with said two circuit nodes (second collector and said first base) that is substantially longer than said off time.”

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Applicant also proposes that coupling means of claim 22 should be amended to include a d.c. power source (resistor) on the base of the switching transistor, which should have been included as part of the capacitive coupling means so as to provide d.c. drive for the switching transistor.

Claim 25(g)-29 Claim 25 (independent) recites:

“allowing said inductive element means to discharge into said load until the voltage across said inductive element means reverses,”

which limits this claim and dependent claims 26-29 to devices employing Applicant's novel timer's method, thereby distinguishing claim 25 from the prior art.

Summation

Applicant humbly submits that Examiner's rejection in the Office Letter of 8/7/06 relied on several facts which have been shown to be incorrect, and that in light of this new information, Applicant's claims 8-29 can be seen to disclose a novel, patentable invention distinct from the cited prior art.

Applicant therefore most respectfully requests Applicant's Amendment A of Nov. 8th, 2005 and claims 8-29 therein be reconsidered in this new light, and begs Examiner's assistance and suggestions pursuant to M.P.E.P § 2173.02 and § 707.07(j) in preparing claims that properly and particularly claim the Invention so that Applicant's application can be brought to a condition for allowance as soon as possible and without the need for further proceedings.

Very Respectfully,



James D. Arthur, Applicant *Pro Se*

Attached: Appendices I & II

307 Fifteenth St. #5, Huntington Beach, CA 92648

Tel. (714) 960-6464 e-mail: arthurj@aol.com

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Certificate of Facsimile Transmission. I certify that I am faxing this paper, including the attached Appendices I & II, on August 31st, 2006, to the Central FAX number of the U.S. Patent and Trademark Office at 571-273-8300.

Signed,

A handwritten signature in black ink, appearing to read "James D. Arthur". The signature is written in a cursive, flowing style with a large initial "J".